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ABSTRACT

The Internet Based Distance Learning (IBDL) classes provided in Wyoming's Casper College have the pctential to benefit all involved. The "Cyber Semester," which began in the spring of 1997, consisted of four typical freshman classes (Physical Geography, Precalculus Algebra, English Composition I, and Political Science) that were offered entirely on the Internet. Wyoming politicians expected it to save money, the college administration expected greater educational access, and the faculty expected ground breaking teaching innovations. Enrollment far surpassed expectation. The average IBDL student was a 29 year old female computer owner in her second year of college. Other groups included high school and college juniors and seniors, as well as those nearing completion of a Bachelor's program. Surveys were conducted to reveal the students' expectations and experiences with the program, as compared to traditional classes. Findings indicated that: (1) students had to do more work than was expected; (2) students felt that they had learned more; (3) the cost of the program met expectation; (4) convenience was slightly lower than expected; (5) average computer knowledge was required; and (6) accessibility and convenience were main reasons for participation. IBDL classes are not intended to save money by having one instructor serve hundreds of students, because they provide accessible one-on-one interaction through the Internet. (YKH)

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Expectations of Internet Education: Casper College's Experience

Gerald E. Nelson

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Expectations of Internet Education: Casper College's Experience

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ABSTRACT

Spring semester, 1997, for the first time in its history, Casper College mounted four Internet Based Distance Learning classes. The classes were conceived as an experiment, a test to see how they would be received and as a mechanism for faculty development. The classes were subscribed beyond expectations. Because this is our first venture as an institution into internet class offerings, we want to determine what works, what doesn't, and why; with this in mind, administrators, faculty, and students were surveyed. There are four entities involved, each with a different set of expectations. The political structure of the state determines the total budget for higher education, the administrative level determines how budgeted amounts are allocated, faculty are charged with carrying out the actual business of education, and students are the reasons for the entire process. Casper College is likely typical of community colleges that are becoming actively involved in Internet Based Distance Learning. It is hoped that our first year experiences will be of value to others starting out on this venture.

INTRODUCTION

Casper College, situated in Casper Wyoming, is the largest of the seven colleges in the Wyoming community college system. We serve about 4,000 total students, or 3,300 Full Time Equivalents.

Casper College has been offering distance learning opportunities via telecourse for two years, so it was a natural extension to offer Internet Based Distant Learning (IBDL) classes when the opportunity arose: we already had a successful model to follow with our telecourses. Several classes are broadcast by Wyoming PBS each semester, and they are generally well subscribed with between 15 and 20 students in each class.

In the spring of 1997, Casper College initiated what we call "Cyber Semester", a group of four, typically freshman level courses offered entirely on the internet. These classes are: Physical Geography, Pre-calculus Algebra, English Composition I, and Political Science. The choice of classes reflects available expertise and interest in the delivery medium, as well as a desire to offer a more or less complete freshman semester entirely on line. It is our hope to expand these initial offerings to a complete Associates Degree program in the near future to meet a portion of the needs for distant learning in Wyoming. The telecourses, and now the IBDL offerings, are

intended to: 1) reach local students who otherwise may not be able to access traditional classes due to work or family commitments, 2) be used by on site students because of convenience, and 3) be used by distant learners across the state, region, country, and world.

DISCUSSION

When I first began organizing Casper College's Cyber Semester, I was struck by what appeared to me to be conflicting expectations of such a delivery system. In conversations with politicians, administration officials, faculty, and students, it is apparent that each group has a different view of what internet based distance learning is, how much work it would be, what it would cost, how convenient it would be, who it would serve, and so on.

Wyoming Political Expectations

In the fall of 1996, I attended the Wyoming Heritage Foundation Meeting on Education, attended by politicians (including the Governor of Wyoming, Jim Geringer), business people, and K-16 educators. Throughout the two days of talks, presentations, and informal discussions, the same themes kept coming up: internet based educational is here to stay, it will become a more important part of Wyoming's educational offerings in the future, and existing higher education institutions in Wyoming are going to have to lead the way. It is clear from the Governor's statements that he is interested in and excited about IBDL possibilities.

Discussing IBDL with the politicians in attendance at this meeting, I came away with the impression that many of them look upon this delivery method as a cost-saving activity. As one state senator (who shall, and should, remain nameless) stated, "one history instructor at one college, delivering classes to the entire state" via the internet. Fortunately, this attitude is not universally shared by the political power structure in the state. I believe there is a general realization that IBDL is about access, not about saving money; but I still worry about the perception that with this medium, one instructor can serve many more students compared to traditional classes.

Casper College Administration Expectations

Our college administration's attitude towards IBDL is one of cautious support: I believe they view it as an interesting idea, but not so compelling as to commit additional resources. Those who responded to my request for comment stressed access to education as being very important. For example, our director of planning and institutional research stated that distance education would provide "greater access because the student is able to access the class at the closest location possible... the student's home or workplace." This same administrator believes there will be an economic advantage, in that "with the proper support, the Internet and distance education allow a course to be easily scaleable from a one-to-one to a one-to-thousand faculty to student ratio." It may be true that with "proper support" (there is the crux!) that faculty may be able to teach large numbers per course, but I believe this should not be the driving force behind the development of IBDL.

The vice president for academic affairs at Casper College is the administrator ultimately responsible for course offerings and delivery methods. When asked for his ideas on what he wanted from internet based learning, he also stresses access: "I am looking for a delivery system

that will provide needed/desired educational offerings to students who can not/choose not to access educational offerings through traditional face to face delivery... allowing students the opportunity to interact with people from other parts of the country/world... a delivery system that allows Casper College to be a major provider of educational services to all students, regardless of where they may be located, who wish to access educational programs provided by this institution." Perhaps not unreasonably so from an administrative viewpoint, this person also stressed the economics of IBDL offerings as being "a delivery system that remains effective ... and affordable at a time when educational costs are sky-rocketing." Affordable in this context is certainly not the same thing as serving hundreds of students per faculty member. Moderate sized IBDL classes of say, between 15 and 30, traditional for many community college classes, can be very affordable in rural areas such as Wyoming.

Casper College Faculty Expectations

Faculty expectations are somewhat different from those of politicians and administrators. We are fortunate in that our vice president for academic affairs sees IBDL as "... a delivery system that will allow faculty to become energized with the teaching/learning process as education delivery moves into the twenty-first century." The entire faculty involved with Casper College's Cyber Semester looks upon internet classes as an opportunity to take on a challenge, to grow and develop, and keep up with technological trends. In our meetings, both formal and informal, words such as "exciting", "interesting", and "challenging" are regularly used, but so are "scary", "frightening", and "dangerous!"

All four of us approach the project with ambivalent feelings, summed up nicely by the English instructor: "On the one hand, I was excited about the possibilities and opportunities of teaching English over the Internet. I felt much like the explorers of old must have felt -- I was testing new waters and charting unknown lands. Exciting. On the other hand, I entered this project with a bit of skepticism. Knowing how difficult it is sometimes to keep students motivated in a "traditional" classroom, I wondered how I would keep them going via a computer." The math instructor thought "... that students who would take a math class via the Internet would be "above average" students... [that] they would know more mathematics and treat this as a "review" of pre-calculus ... that this caliber of student would jump in, not have any problems, and do great ...[and] that if a student had a computer at home, they would be very computer literate." For my own class in Physical Geography, I expected 5 or 6 computer literate students would sign up, giving me plenty of time to do course development with small group of dedicated students as test subjects.

The reality was quite different in many respects. Thirty-six students signed up for physical geography, 22 for political science, 18 for English composition, and 6 for pre-calculus algebra. The four of us were amazed; we had expected numbers like the math class, nothing like what actually happened. At the midterm break, approximately 60% of the original students remain active. This is less than, but not greatly different from traditional classes, which typically retain about 70% at the break.

In addition to the large number of students, we were surprised by the overall lack of computer sophistication in about half of the students. As a measure of computer sophistication, eighteen of the 36 students in physical geography required a temporary E-mail/Internet account, and they needed a training session to get them started; the other half of the class all had their own E-mail

accounts and service providers. Similar ratios occur in the other three classes. Surprisingly, there is no clear relationship between those who dropped out of the classes early and those who did not have their own E-mail accounts and internet service providers. A proportionate number from each group dropped the class or stopped participating.

All instructors were puzzled that students would sign up for IBDL classes, which were clearly designated as such in the schedule, when they were so obviously ill prepared to take on the extra challenges of the medium. For example, the math instructor thought that "Because I required students to have a CD-ROM and Internet access, I felt that I wouldn't have to teach them how to email, download pages, and send attachments... [however] the majority of my students didn't know how to send an attachment."

I spend a large share of my class time explaining the nuts and bolts of the computer system, file management, and search strategies. This is time well spent, in my opinion, but I have had to make adjustments in the quantity of material I can assign and in the level of difficulty in projects that I can assign. I had envisioned receiving hypertext project reports, but this is, as I now realize, an unrealistic expectation. I do believe that we should not back away from offering the IBDL courses because of lack of readiness on the part of the students. The dedicated ones will pick it up quickly and be off on their own. The rest may acquire the skills more slowly, but I anticipate these skills will prove durable in the long run. All four of the instructors involved have experienced feelings similar to those of the English instructor: "The students who do take this class seriously are, in many ways, exemplary... This class and the other Distance Learning classes have opened the door to higher education for them. This is also exciting." We have all discovered the obvious: good students are still good students in IBDL medium, and C students still turn in average work at the last possible moment. However, the IBDL medium provides an opportunity for MORE good students and MORE average students to access education. For some, a C in a math or an English class satisfies their needs.

Student Expectations

Student Demographics

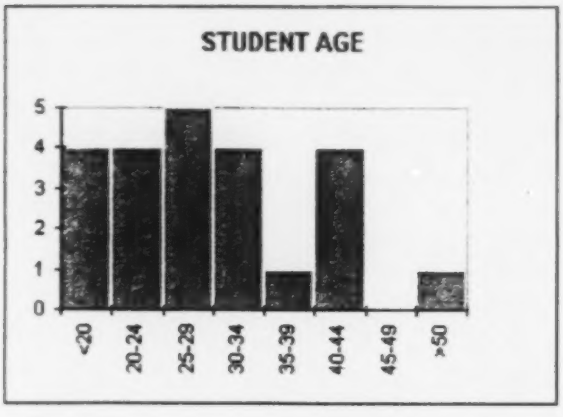
The demographics of our group of students are typical of a community college in many respects: they are older, mostly female students returning to or starting school after a long absence. In some respects, our cyber students are atypical of community college students. For example, we have several high school students taking one or more IBDL classes: they must meet the same prerequisites as a traditional college student. Prerequisites for math and English classes are appropriate scores on ACT (American College Testing service), SAT (Scholastic Aptitude Test), or the COMPASS (Computerized Adaptive Placement Assessment and Support System) placement exam. The prerequisite for freshman level survey courses (such as Physical Geography and Political Science) is generally "permission of the instructor." Wyoming high school students are allowed to take some college classes for both high school and college credit through the BOCES (Board Of Cooperative Educational Services) program if they meet the prerequisites and are otherwise ready for college level work.

In addition, we have several students nearing completion of a Bachelor's program via distant learning, and who need just one or two additional general education courses to complete their degrees at the University of Wyoming, the state's only four year institution. For example, all

Wyoming college students are required to take political science as a graduation requirement, and the Cyber Semester gives them an additional option.

The demographic data show we are serving as many high school seniors as college juniors and seniors, both of which are populations not commonly served by our college. We also have a large number of on-campus students taking IBDL classes for convenience, as well as a number of students who are truly "distant." Of the 63 different students originally signed up for Cyber Semester classes, 8 (approximately 13%) students are from outside the Casper area.

Illustration 1, Student Demographics



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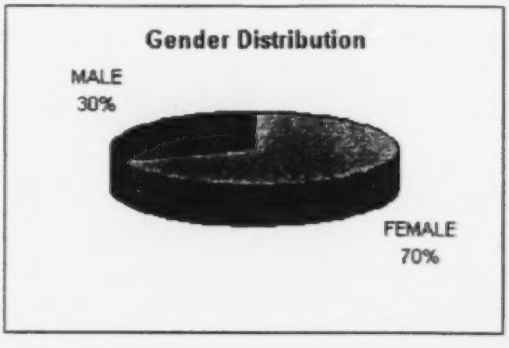

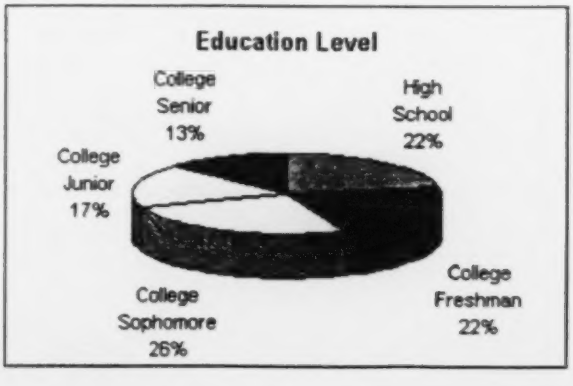

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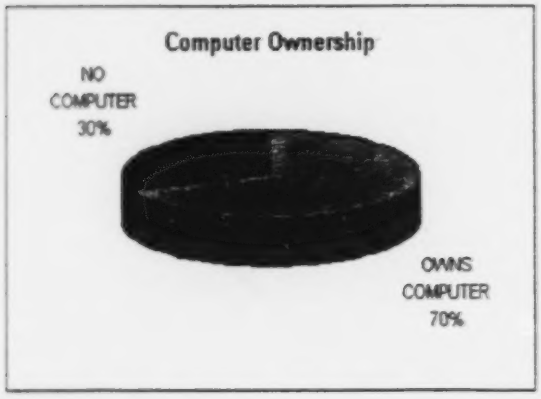
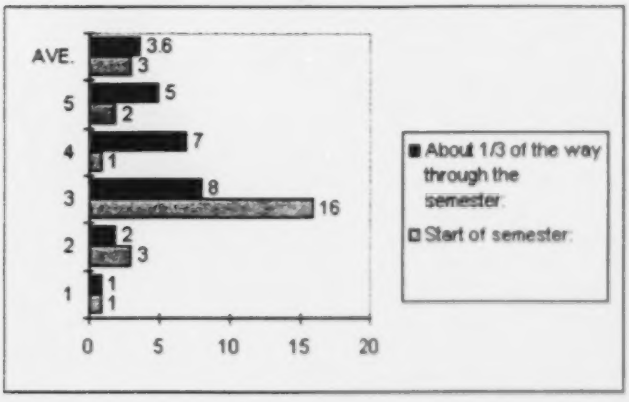
Our "average" IBDL student is a 29-year-old female computer owner in her second year of college. The "average" designation doesn't tell the entire story, however. We are serving a variety of students from a variety of demographic groups.



Results of the Survey

Survey forms were sent to all IBDL students to assess their expectations and to provide a check to see if we were meeting those expectations. This is by no means a scientific, statistically valid survey; we simply wanted to do a reality check to see if our experiment in IBDL was working. Of the 82 surveys sent out, 23 were returned, which represents about 50% of the active students. Duplicate results (from students taking more than one IBDL class) were not counted since the survey was not directed at any one particular class. My intention was to determine if student expectations differed greatly from their experiences in the IBDL classes.

Illustration 2, Results of the Survey



1) The first question was designed to assess how much work students thought IBDL classes would be, compared to a traditional class. Students were asked to report their assessment at two points in time: when they first signed up and at the time of the survey, about 1/3 of the way into the semester. They were asked to rank their assessment from using a scale from 1, much less work compared to a traditional class, to 5, much more work compared to a traditional class. The average response at the start of the semester is 3.0, indicating that students anticipated that the class would require about the same amount of work as a traditional class. The reality 1/3 of the way into the semester is 3.6, indicating students discovered that the amount of work is more, compared to a traditional class.

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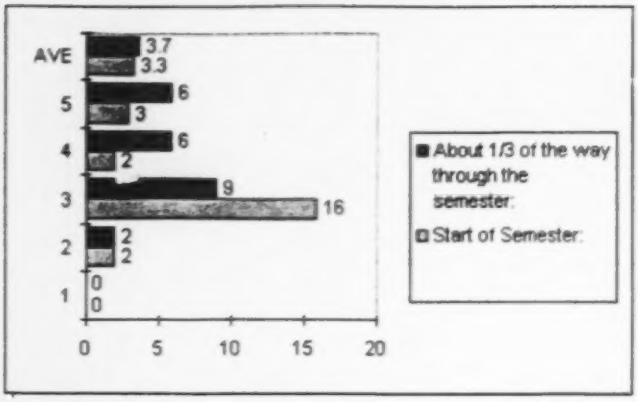
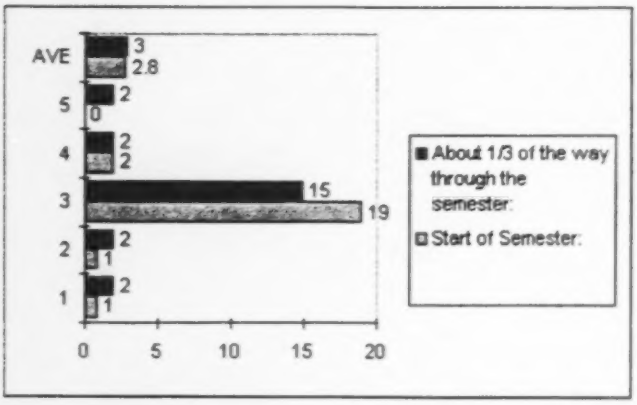
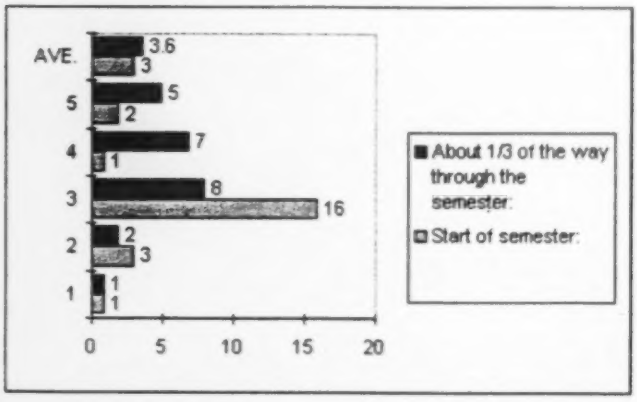


2) The second question was designed to assess how much students thought they could learn from IBDL classes, compared to traditional classes. Students were asked to report their assessment at the same two points in time mentioned above, and on the same scale. The average response at the start of the semester is 3.3, indicating they thought they could learn about the same amount of material as in a traditional class. The reality after 1/3 of the semester is 3.7, a slight increase in the perception of how much students think they can learn in an IBDL class compared to a traditional class.



3) The third question was designed to assess how much students thought IBDL classes would cost, compared to traditional classes. Students were asked to report their assessment at the same two points in time mentioned above, and on the same scale. The average response at the start of the semester is 2.8, indicating they thought it would cost about the same as a traditional class. The reality is that the perceived cost to students is about the same as the actual cost, compared to traditionally delivered classes.



4) The fourth question was designed to assess how convenient students thought IBDL classes would be, compared to traditional classes. Students were asked to report their assessment at the same two points in time mentioned above, and on the same scale. The average response at the start of the semester is 4.7, indicating that the students perceived that IBDL classes would be very convenient. The reality is an average response of 3.7, considerably lower as students perceive the IBDL classes to be less convenient than they thought at first, compared to traditional classes, but still considered convenient.

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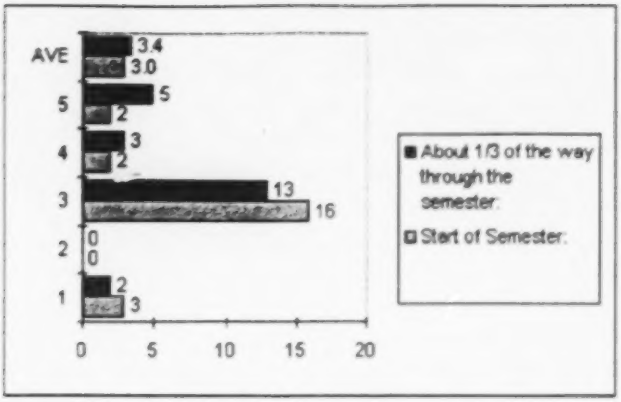

5) The fifth question was designed to assess how much computer and technology knowledge students thought IBDL classes would require. Students were asked to report their assessment at the same two points mentioned above, and on the same scale. The average response at the start of the semester is 3.0, indicating that students thought that the IBDL classes would require about an average knowledge of computers and technology. The reality is 3.4, only slightly higher, indicating students perceive that IBDL classes require only an average knowledge of computers and technology. Of course, these are the students who are still in the classes at this point in the semester; one must assume that at least some of the students who dropped the classes or stopped participating did so because of daunting technology

Why Students Take IBDL Classes

Students were asked in the survey to "...please tell me the main reason why you decided to take an internet class, and what you hope to gain from it." Responses were varied, and most students gave more than one reason. The responses can be categorized, from the most common response category to least, as: 1) Accessibility, meaning IBDL is the only or nearly the only medium of education available due to a student's physical distance from providers, or work and family schedules that make it impossible to attend college during traditional hours. Many students do not have a choice of working or attending college; if they are going to do both, then one or the other must be flexible. Some jobs have a significant amount of flexibility, but most do not. 2) Convenience, in that while other educational opportunities are present, IBDL presents a convenient choice. Students in this category like to set their own schedules, and work independently at their own pace. 3) Interest in the medium was mentioned by numerous students as a reason - they simply like the idea of the internet. And 4) Interest in the class topic was mentioned by a small number of students as a primary reason for taking IBDL classes.

Typical of ACCESSIBILITY RESPONSES, by far the largest category:

"The main reason I decided to take an Internet class was because I live in Crowheart, WY. Which is 170 miles west of Casper."

From a working student for whom the choice is work and school, not work or school: "I took this class via internet due to my strenuous work schedule. I work 40 - 60 hours per week and this is the only way I am able take a full load of classes."

From a working student with work hours flexible at the convenience of the employer: "I have an extremely hectic schedule. My work hours change daily and I was never sure of when I could get to a standard class."

"The reason I became involved in this course is to satisfy a General Education requirement of UW... I am an off campus student, senior, ...Off campus means getting your education anyway

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you're willing to do it."

Those citing CONVENIENCE:

"Did not have an opening in the class schedule for a regular math class..."

"The main reasons were because it fit into my schedule better this Semester than traditional classes..."

"I ...wanted a class that I could do on my own time."

From a high school student, indicating that taking the class now while in high school is convenient: "... I also know that it is a required course in any Wyoming college."

From a traditional college student who could, but would prefer not to be, sitting in a traditional classroom: "... I don't like to listen to government lectures..."

Those citing INTEREST IN MEDIUM:

"I decided to take an Internet class because I wanted to learn more about how to get around the Internet ... This class has a purpose and a direction..."

From a traditional freshman student with at least a passing interest in the medium: "... my advisor thought it [the internet medium] would be a good opportunity. So I went with it."

"I like to spend my free time on the internet so I thought this class might be one good way to surf the net."

"I thought it was a very up-to-date idea for the College to do."

"I decided to take an internet class because it sounded interesting and it would give me some experience on the internet."

"I took this class because it sounded very interesting."

"I decided to take this class ... mainly because it was something new."

"...surfing the Net and corresponding via e-mail is one of my favorite things to do."

One respondent mentioned an INTEREST IN THE TOPIC:

"I am taking this internet course because I am keenly interested in this particular science."

CONCLUDING REMARKS

Casper College is, I believe, typical of many community colleges that are striving to serve an ever-greater diversity of students on static or dwindling budgets. Unlike some people, I do not envision IBDL classes as saving money by having an instructor serve hundreds of students. We should not take the worst aspects of the traditional lecture format (impersonal, top down, passively providing information) and transfer them to a new medium. IBDL classes provide an opportunity to interact one-on-one with students to a depth never realized in a traditional lecture format. I can provide help, information, or encouragement in just the right doses at just the right

times. I cannot do this in a lecture hall filled with hundreds of students, and I certainly cannot do this via the internet with similar numbers of students. Lest we forget why we are doing all of this, let me quote from a perceptive student: "I would stress the importance of quality teacher-student cyber communication with other instructors who venture to teach via the internet."

IBDL classes are affordable, accessible, and convenient for a great number of students. Take as an example the student from Crowheart, Wyoming, 170 miles from Casper College. It would not be economically feasible to bring a traditional class to her at Crowheart, even if the student could round up 5 or 6 additional students, an unlikely event given Crowheart's population. However, that student in Crowheart, plus the two University of Wyoming seniors in Newcastle, the high school students in Big Piney and Midwest; now we have a cohort that can be served at an affordable rate using the IBDL medium! Notice also the number of students above citing convenience or an interest in the medium. In a population center such as Casper, there will always be students who choose IBDL even though they could avail themselves of traditional classes. These students in essence subsidize the students in Crowheart, Big Piney, and Newcastle through their participation in IBDL classes.

IBDL classes can become a win-win situation for politicians, administrators, faculty, and students. Politicians can preside over a growth period in delivery of educational services to the public, with few extra dollars, administrators see the realization of efforts to bring affordable education to a maximum number of students. The real win-win though, is between students and faculty. Instructors reap the rewards from pushing the educational envelope in new and exciting directions; the best thing that can happen to a student is to have one of these instructors.

Thanks to the following for providing written responses to my questions:

Skip Gillum, Vice President for Academics, Casper College

Al Rains, Office of Planning and Institutional Research

Mike Doyle, English instructor

Susan Nelson, Mathematics Instructor

Ray Wilson, Government Instructor

23 students in the 4 Cyber Semester Classes